

Name: _____

Date: _____

Solving Quadratic Equations via Factoring

Part One: Concept Check

1. If a quadratic equation has two solutions, those two numbers represent the: _____ of the parabola.	2. The Zero Product Property states that if $ab = 0$, then $a = 0$, $b = 0$, or _____.
3. Synonyms for solutions of quadratic equations are: _____, _____, and _____.	4. The equation of the parent quadratic function is: _____ and its vertex is located at (_____, _____).

Part Two: Solving by Factoring: Find the solution(s) of each equation using factoring. The first two have been factored for you.

5. $(x - 1)(x + 7) = 0$	6. $(h - 3)(h - 6) = 0$
7. $x^2 + 10x + 24 = 0$	8. $w^2 + 6w - 16 = 0$
9. $t^2 - 6t + 8 = 0$	10. $2q^2 + 3q - 5 = 0$
11. $6x^2 + 41x + 63 = 0$	12. $8y^2 - 23y - 3 = 0$

Part Three: Solving by Factoring: Find the solution(s) of each equation using factoring.

Note: You need to isolate zero before you begin factoring!

13. $r^2 + 3r = -2$	14. $x^2 + 10x = -16$
15. $y^2 - 12y = -11$	16. $p^2 + 30 = -11p$
17. $x^2 + 18 = 11x$	18. $5e - 3 = -8e^2$
19. $2x^2 - 12 = -23x$	20. $-9y + 2 = -4y^2$

CHALLENGE: Find the roots of the equation: $4x^3 + 7x + 63 = -36x^2$

